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The Georgia Educational Model program has produced a model for the preservice and inservice training of elementary teachers (SP 002 137). Teacher performance behaviors and a teacher job analysis provided the foundation on which the model was built. System analysis was the technique utilized for the program. The rationale for the development of the model was based on the hypothesis that an effective teacher education program is built upon the job which the teacher performs. The sequential development of goals, objectives, and pupil learning behaviors for the elementary school provided a primary basis for ascertaining teaching behaviors and, consequently, analyzing teacher jobs at four levels: teacher aide, teaching assistant, elementary teacher, and specialist. Finally, teacher performance specifications were developed that provide the objectives and content for the program. The project produced performance specifications for teacher competencies plus specifications for the selection of candidates, for program evaluation, and for implementation of the program including individualized curriculum guides (proficiency modules), laboratory facilities, orientation program, and extensive administration reorganization. (ED 018 677 summarizes the nine models.) (JS)

SUMMARY OF THE FINAL REPORT

Project No. 8-9024
Contract No. OEC-0-8-089024-3311 (010)

SUMMARY OF THE

GEORGIA EDUCATIONAL MODEL SPECIFICATIONS

FOR THE

PREPARATION OF ELEMENTARY TEACHERS

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The research reported herein was performed pursuant to a contract with the Office of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

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Bureau of Research

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The core staff of GEM, which was responsible for the preparation of the final report entitled Georgia Educational Model Specifications for the Preparation of Elementary Teachers, of which this is a summary, regarded itself as a team of coordinators whose primary function was to use specialists and laymen from various fields of endeavor to implement the network of events contained in the original proposal. Thus, much of the work which led to the completion of the project was the effort of many unnamed persons. To name each person who participated in the development of the model program would provide a list too extensive to include in this document. Therefore, this acknowledgement is directed to the various institutions and organizations which provided time, effort, and facilities as they were needed.

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Other resources in the State of Georgia which gave time to the project were the Regents of the University System of Georgia, the Georgia State Department of Education, the Georgia Teacher Education Council, the Georgia Education Association, and the Georgia Congress of Parents and Teachers. Also participating were numbers of outstanding universities, state colleges, junior colleges, and public school systems. In addition, numerous nationally known specialists were consulted from time to time as the project progressed.

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INTRODUCTION

Education will assume its rightful place as a behavioral science only when educators approach their task scientifically. Responsibility for hastening this transformation rests with those colleges and universities engaged in training teachers. The difficulty of the job can be assessed by the depressingly large number of public school systems throughout this nation where educational practices have remained virtually unchanged for decades, despite all that has been discovered about teaching and learning. Possibly it is because institutions for teacher training have not always practiced what they have preached to those who have graduated, only to have them become custodians of the status quo. For this reason, the University of Georgia proposes to discard traditional "courses" in favor of a behavioristic model for the training of elementary school teachers.

In a 1967 request for proposals (USOE), the U. S. Office of Education identified as critical the need for specifications of model programs which would produce more effective teachers. Upon receipt of a planning grant in March, 1968, the University of Georgia organized a research and development team, Georgia Educational Models (GEM), with a staff of eight under the supervision of the Dean of the College of Education. Two boards were also formed--an eight member executive board of specialists at the University and an advisory board of other outstanding educators from throughout the state and nation. A systems analysis approach was used in planning. The GEM Model reflects the best efforts of some of the finest scholars in education.

PLANNING PROCEDURES

Job Analysis. The basic approach was to analyze what must be done by the teacher to cause elementary children to advance on the learning continuum, and to provide cognitive and affective experiences specifically intended to produce desired teaching behaviors. The initial step in

determining specifications for a teacher education program was to define the role of the teacher. Only by defining the job could the competencies necessary to perform specific tasks be adequately determined. The content of a teacher education program should be based on the teaching act itself.

The analysis of the teacher's job (see Figure 1) began with a determination of goals for the elementary school. This was followed by the identification of objectives which would translate goals into the school setting. Objectives were developed in each content area, and for cognitive processes, attitudes, and values. How the pupil behaves in order to achieve learning objectives was determined. These learning behaviors provided the basis for determining teaching behaviors.

Teaching behaviors alone could not provide the total content for a teacher education program. Also relevant were general instructional principles, teaching principles, learning principles, and organizational principles. These principles provided certain teacher objectives and additional teacher behaviors which, in turn, provided an additional basis for the job analysis. Knowledge from educators in the field, plus knowledge of the nature of the child and how he learns, provided further information for the job analysis.

The teacher education program should also attempt to develop a teacher with adequate personality characteristics. Consequently, humanistic learnings, attitudes, and values were incorporated into the program. It is acknowledged, that evaluative criteria for measuring attainment in these areas are inadequate. Despite this problem, the indicators are that the personality development of the teacher is as important as his intellectual development, and demands its inclusion in the model.

Job Description. The analysis of the job of the elementary teacher led to a job description which resulted in the categorization of teaching tasks into four levels: aide, teaching assistant, elementary teacher, and specialist. A job description for each of these categories was prepared. The reader will recognize that most teachers in the elementary school today are responsible for all of the

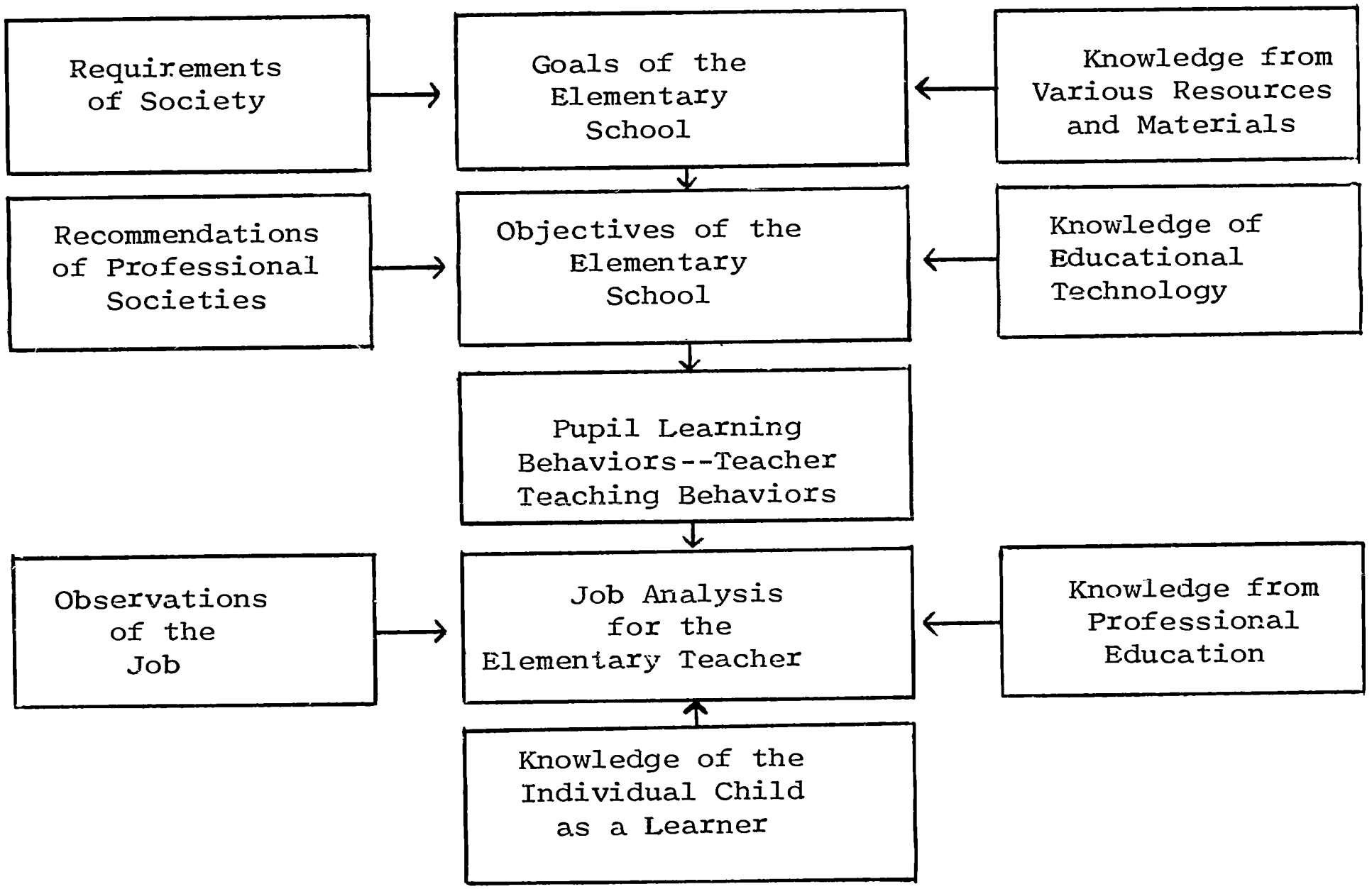

Figure 1

Information Flow Chart for Job Analysis

tasks in the job description except those of the specialist. However, experience with teacher aides and interns has shown that differentiated use of staff is feasible in using time and talent more efficiently.

According to this classification, the aide will perform a variety of important non-instructional tasks and activities under direction of an experienced teacher. A person at this level will primarily be concerned with gaining experience in the school setting.

The second level of proficiency among elementary school personnel is that of teaching assistant. The teaching assistant will perform both instructional and non-instructional duties, thus assuming a more complex role. The teacher assistant will generally be directed by the teacher, with responsibility for initiating and executing a variety of tasks. These tasks can be performed by an individual with about half the degree and certification requirements of a fully trained teacher.

Completion of the pre-professional program will provide the student with competency for paraprofessional service as a teaching assistant in the elementary school, the associate's degree, and the basic prerequisites for admission to the professional program. The pre-professional program will require approximately 18 months for completion. After 9 months the student will be competent to serve as a teacher's aide. About 90 percent of the experiences provided in the pre-professional program will be in general (liberal) education. Ten percent of the experiences will be in paraprofessional and basic professional. Approximately 12 weeks of on-the-job paraprofessional training will be required of the student, 6 weeks occurring about mid-way in the first half and 6 weeks about mid-way in the last half.

The professional elementary teacher will have completed the requirements for a bachelor's degree and for certification. The tasks performed at this level will be largely instructional, with some time spent in essential non-instructional activities. The professional program also provides the student with prerequisites for admission to the specialist program.

The professional program will require approximately 22 months for completion. Approximately 25 percent will be on general (liberal) education requirements, 30 percent on what is called an area of competency, and 45 percent to professional education. An area of competency is a teaching area in which the general elementary teacher has more knowledge, understanding, and skill than in others.

During the program the average qualified student will have three on-the-job practical laboratory experiences of approximately six weeks each in elementary schools, each with different age groups. Placement in these laboratory experiences will be such that the students will have opportunities to work with children of various socioeconomic and ethnic characteristics.

An internship of approximately ten weeks will be required near the end of the professional program. This will be in an elementary school setting with children of an age range which meets requirements of certification for which the student is working. Special attention will be given to provide the student with opportunities to use the knowledge, understandings, and skills acquired in their areas of competency, i.e., assisting in the preparation of materials which require more than usual understanding of a particular area.

The specialist will represent the highest level of competence. The specialist will engage in certain activities with children, with other school personnel, and with other people apart from these groups. The activities will be instructional as well as non-instructional. However, the specialist will have no significant non-instructional responsibilities with children. Rather, competence in working with children and in providing leadership and service to other school personnel will characterize the specialist. This person may occupy both teaching and specialist roles as a professional team member, or may perform the appropriate tasks from a central-office location.

The specialist or inservice program provides the student with the specialist's degree in one of fifteen areas--either in one of the eight areas of competency characteristic of the professional program or in human development and learning, instructional media, pupil

personnel, curriculum and program development, school-community relations, evaluation, and professional development.

Approximately 50 percent of emphasis will be devoted to the area of specialization, 40 percent to common experiences required for all specialists, and 10 percent with local conditions or exploratory experiences. Specialization for laboratory experiences requires all persons enrolled in the specialist program to be currently on-the-job practitioners or to have access to the special laboratory facilities needed. Arrangements for continuous field experiences will be made cooperatively between the program directors and the administrators in the field.

Examples of a few items from the job description are shown in Figure 2.

Performance Specifications. As a result of the job analysis, performance specifications (teacher competencies) were developed. In addition, the job analysis determined specifications for selection, program design, and evaluation.

Performance specifications form the core of the model. These are statements which describe a particular competency, or competency requirement, that a teacher should possess in order to operate at optimum effectiveness in a teaching-learning situation.

Specifications were prepared for the teaching assistant, the teacher, and the specialist. Generally, the teaching assistant should exhibit the specified behaviors after two years in the program; the teacher after four; and the specialist after six.

Some 2000 specifications for teacher performance have been developed in the following categories:

Drama
Composition
Cognitive Processes
Psychology
Educational Tests and Measurement
Instructional Improvement and Professional Development
Specialized Training Related to Local Conditions

Activities of Aides

1. Collects money; keeps records.
2. Assists in playground activities.
3. Operates audio-visual materials.
4. Distributes materials.

Teaching Assistants

1. Reads and tells stories to pupils.
2. Explains school rules to pupils.
3. Locates reference materials for teachers.
4. Makes arrangements for field trips.

Certified Teacher

1. Analyzing pupil behavior to determine levels of mastery.
2. Listens to pupils talk about themselves.
3. Organizes groups for reading instruction.
4. Conferring with parents.

Specialists

1. Using new and innovative instructional methods.
2. Preparing demonstration lessons.
3. Speaking to lay groups.
4. Assisting individuals with instructional problems.

Figure 2

Sample Activities in the Job Description

Pedagogy	History of Religion
Social Studies	Art
Speech	Music
Reading	Health
Literature	Physical Education
Listening	Philosophy
Mathematics	Guidance and Counseling
Media	Social Foundations of Education
Science	

The system for classifying these was based on taxonomies (Bloom, Krathwohl) to designate the intended behavior of students that would result from specific learning experiences. Categories in the cognitive domain include: (a) knowledge, (b) comprehension, (c) application, (d) analysis, (e) synthesis, and (f) evaluation. Those in the affective domain are: (a) receiving, (b) responding, (c) valuing, (d) organization, and (e) characterization.

The desired behaviors have been classified according to the highest level of learning necessary for optimum performance in specific positions. The assumption is made that the objective in one class makes use of, and is built upon, the behaviors found in the preceding classes. For an example, see Figure 3.

The development of certain motor skills is considered to belong in certain aspects of the cognitive domain. However, some motor skills should be designated separately for clear understanding that these skills are necessary for certain tasks. These motor skills have been classified in four levels: (a) simple action (response), (b) coordinated action (multiple action), (c) action sequence (procedure), and (d) system action (accomplishing an objective) (see Figure 4).

Finally, although the affective domain of the taxonomy has been used in the classification of some objectives, for purposes of clarity and emphasis, those relating to personal development have been separately classified. Here, the taxonomy has not been used because it is hoped that each person (assistant, teacher, and specialist) will strive to achieve toward the maximum development of their individual personalities.

3.02 Performance Specifications--Educational Tests and Measurements

Characteristic	Level of Development					
	Cognitive			Affective		
	Teaching Assistant	Teacher	Specialist	Teaching Assistant	Teacher	Specialist
3.02.01 Historical background and overview of educational measurement.		1	3		1	3
3.02.02 Purpose for and components of a test guide.		3	6		1	3
3.02.03 Different types of items and teacher made tests.		3	6		1	3
3.02.04 Instructions for and administration of tests.	1	3	6		1	3
3.02.05 Normative data.		3	6			
3.02.06 Interpretation of test scores.	1	3	6		1	3
3.02.07 Desirable test characteristics.		3	6		1	3
3.02.08 Gain experience in finding test information.		3	6		1	3
3.02.09 Standardized intelligence tests.		2	6		1	3
3.02.10 Special aptitude tests.		2	6		1	3
3.02.11 Achievement batteries.		2	6		1	3
3.02.12 Techniques of self-appraisal.		2	6		1	3

Figure 3

Performance Specifications--Cognitive and Affective

3.19 Performance Specifications--Physical Education

Characteristic	Level of Development								
	Cognitive			Affective			Motor		
	Teaching Assistant	Teacher	Specialist	Teaching Assistant	Teacher	Specialist	Teaching Assistant	Teacher	Specialist
3.19.01 Neuro-muscular system.		3	6		2	3			
3.19.02 Pupil's physical limitations and individual differences.		3	3		3	3			
3.19.03 Neuro-muscular skills such as running, jumping, kicking, striking an object with a racket or bat.	2	3	5	1	3	3	1	2	3
3.19.04 Techniques for developing pupil strength and endurance.		2	5					1	3
3.19.05 Evaluation of pupils through observation.		4	6						
3.19.06 Techniques of developing democratic living through play and learning activities.	1	3	4	2	3	5			
3.19.07 Kinesiology.			5						
3.19.08 A wide range of physical activities for pupils (e.g., rhythms, dances, games, team sports).	1	3	5		3	3	1	2	3

Figure 4

Example of Performance Specifications--Cognitive, Affective, Motor

A synthesis of the available research and literature, especially that developed by the National Training Laboratories, produced generalizations which have been translated into six objectives for the development of an adequate personality. The six objectives are listed below:

1. To develop and accept an accurate perception of self.

2. To acknowledge and accept one's social, psychological, and physical needs.

3. To acknowledge, accept, and deal appropriately with one's emotions, feelings, and intuitions.

4. To develop and enlarge one's capacity for human understanding and compassion for others.

5. To more fully identify and achieve toward one's aspirations and goals.

6. To awaken to and develop an awareness of the process of becoming.

The model provides sample personality characteristics for each objective that should be taken into account in the development of a teacher education program (see Figure 5).

The development of selection specifications for candidates for admission to the model program was based on an investigation of the teacher personnel pool and a summary of the job analysis. These investigations demonstrated the need to:

1. Increase the pool of teacher candidates.

2. Increase the input of qualified teachers.

3. Develop a teacher career field.

4. Provide appropriate categories for all entry personnel.

3.25	Performance Specifications--Affective (Domain)
3.25.01	To develop and accept an accurate perception of self, in order to achieve a more adequate personality.
3.25.01.01	Ascertains the degree of acceptance one has among one's peer, academic, social, sex, and similar groups.
3.25.01.02	Assesses the limits of one's potential, in order to learn the extent of one's own capacities.
3.25.01.03	Examines one's tolerance for ambiguity, in order to discover the amount of regulation one requires in life and the environment.
3.25.01.04	Confronts the types of anxieties and types of fears one lives with in daily life, in order to achieve more effective behavior.
3.25.01.05	Determines the degree to which one is authentic in presenting one's personality and real self.
3.25.01.06	Assesses the degree of comfort and/or discomfort one finds in one's environment, in order to achieve satisfaction and stability.
3.25.01.07	Studies and examines the effects of the behavior of others upon oneself when choosing one's own behavior.
3.25.01.08	Understands and is able to use effectively the tools of communication.
3.25.01.09	Finds ways of dealing with conflict, in order that it does not incapacitate one's potential behavioral effectiveness.
3.25.01.10	Has the courage of one's convictions and presses them forward until change seems warranted.

Figure 5

Sample Personality Characteristics

A career field can provide for some of these concerns by allowing an individual to enter a vocation at the lowest category level, and through experience and training, to advance as far as he is capable. This model was designed to satisfy the requirements of increased quantity, quality, and utilization of teacher personnel as aides, teaching assistants, certified teachers, and specialists.

In order to increase the input of personnel into the teaching profession, multi-entry points and paths are provided. Figure 6 shows some possible entry points in the teacher career field.

Traditionally, the route to teaching has been directly from high school to college and into teaching. This path will be maintained and, hopefully, improved in this model. An alternative proposal allows the student to enter teaching directly from high school as an aide, attend college on a part-time basis, advance to teaching assistant, become a teacher, and finally move toward becoming a specialist. A third route allows non-education majors to enter as aides, or as teaching assistants, and complete their professional training.

The path for admission to training as a student teacher is shown in Figure 6. Figure 7 shows scores required for admission.

The shortage of teachers makes the suggested scores untenable in certain situations. The model offers these suggested scores as a basis for developing predictors of success. However, until their suitability is evaluated, there are several ways of adapting them to individual situations. One is the reduction of the qualifying score. Another is developing test norms for special groups. Entry scores are not differentiated for the four personnel categories because a career development program should admit only candidates who are judged as "capable of reaching the highest plateau."

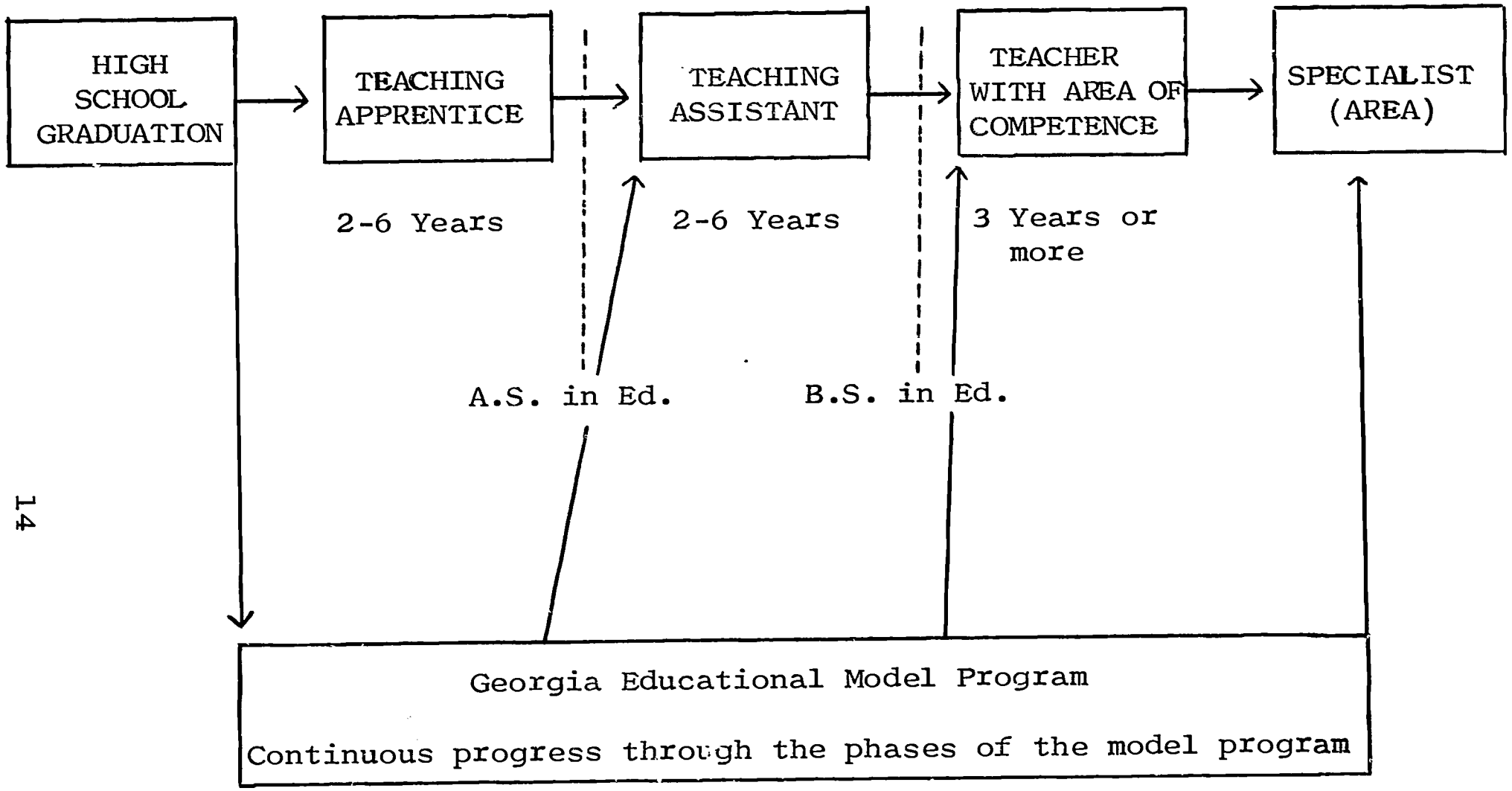

Figure 6

Paths in the Teacher Career Field

Personnel Category	Qualitative (e.g., SCAT)	Quantitative (e.g., SCAT)	Interest (Strong for Teaching Area)	Biographical Information Blank	Personality Schedule (e.g., Edward's)	School Achievement
Teacher Apprentice	500		B	*	*	↑ 50th Percentile in High School ↓
Teacher Assistant	500		B	*	*	
Teacher (area competent)						
Language arts	500		B+	*	*	
Mathematics	500	500	B+	*	*	
Social science	500		B+	*	*	
Science	500	500	B+	*	*	
Art	500		B+	*	*	
Music	500		B+	*	*	
Foreign language	500		B+	*	*	
Physical education	500		B+	*	*	
Specialist	(GRE)	(GRE)	(GRE Ad. Test)			
Reading	500		500			
Mathematics	500	500	500			
Social science	500		500			
Science	500	500	500			
Art	500		500			
Music	500		500			
Physical education	500		500			
Guidance	500	500	500			

* Any significant deviation from normal will be cause for interview by psychologist.

Figure 7

Scores Required for Admission

ORGANIZATION OF TRAINING

Organization and Presentation of Content. Before decisions were made with regard to how content was to be organized and presented, the staff established principles which it used for criteria. It included among others the requirements: (a) that the model program should be systematically planned in terms of goals and contain objectives so stated that they may be reduced to behavioral terms, (b) that content should be organized in accordance with what is known regarding how the content is most effectively learned, (c) that instruction should be controlled by an achievement or mastery variable (rather than a time variable), (d) that content should be organized in such a manner that practical applications and basic theoretical concepts are introduced concurrently, with stress being given to their interrelationships, (e) that more complex theoretical considerations should be undertaken only after basic practice and theory have been assimilated, and (f) that content should be so selected as to give appropriate relative emphasis to all objectives, including those related to the subject matter, thought processes, skills, and attitudes regarded as essential for effective performance of the teacher, both as an intelligent member of society and as a teacher.

Confronted with these and other criteria, the staff set about to develop a system which would, to a large extent, reflect the ideals it sought to fulfill. In answer to this need, the staff created a vehicle which it specifies as an essential feature of the program--the proficiency module (PM).

Proficiency Modules. A proficiency module is defined as a published guide to direct individual student learning behavior in studying particular subjects or topics or in undertaking particular activities in laboratory situations. The proficiency module is a means of organizing various sizes, kinds, and clusters of content for instruction in such a manner that it is assured that the student either has acquired the content of the module, or that he will do so by carrying out the instructions contained in it.

The content for any PM is a selected cluster of related teacher performance behaviors including not only definitions, facts, and concepts, but also thought processes, motor skills, and attitudes. The core of the PM, insofar as the student is concerned, is a series of learning tasks prepared by specialists. These tasks are carefully designed and arranged in such a manner that they are regarded as the most effective known means of guiding students toward the acquisition of the performance behaviors. These tasks provide multiple sequences for the attainment of the desired end in such a manner as to make them adaptable to individual differences among students in such characteristics as rate of learning, sensory sensitivity, and cognitive styles.

When properly constructed, PMs avoid duplication of content among offerings and permit the student to move through the program at a pace which is both comfortable and challenging to him. A qualified student may move as rapidly as he is capable of moving or as slowly as is necessary for him to move in meeting the specific requirements.

PMs are classified by types and blocks. The term types refers to classes of PMs which group themselves around common functional relationships such as basic PMs required for all students in the pre-professional program or PMs required of all students enrolled for a particular area of competency. The term blocks refers to clusters of PMs which must be taken in sequence. For example, there are six PM blocks in the pre-professional program and ten PM blocks in the professional program. The student must meet the level of proficiency required in all of the PMs of any block before he may move on to the next one. PMs are constructed in accordance with the specifications of the report.

Laboratory Facilities. The model specifies the need for five kinds of laboratory facilities: (a) General Resources Laboratories which include facilities used by all students of universities, colleges, and schools such as central libraries and computer instruction centers, (b) Instructional Unit Central Resources Laboratories which house and provide all learning materials and equipments essential for the undertaking of PMs within

particular areas which are not readily or conveniently available in General Laboratories, (c) Instructional Unit Field Laboratories which provide field facilities as needed, (d) Clinics in which remedial services are provided when required, and (e) Instructional Unit Interaction Laboratories which arrange for such activities as special lectures, seminars, workshops, and recitals.

Orientation. An orientation program is required for students during the first week of the pre-professional program. It is during this period that students become acquainted with such matters as the nature of the program, the individualized features of instruction by PMs, and the location and operation of special facilities. Also, during orientation the students meet with their advisors and are introduced to their first block of PMs. Since the program is individualized, orientation beyond first enrollment is conducted through advisor-advisee conferences.

EVALUATION

Test Guides. Inasmuch as performance specifications are specific and observable, they form a basis for writing test items for various evaluative measures. An achievement test guide for a module in tests and measurement is outlined in Figure 8. The objective is placed in the first column, and supporting content in the second. Processes of measurement are indicated in the next column where category headings are those of the cognitive domain taken from the taxonomies (Bloom, Krathwohl). Were it an attitude or value scale, the category headings would be those of the affective domain. A performance measure categorizes the skill domain. The number of test items is indicated in each cell and represents the amount of emphasis given to that topic, and the process to be employed by the test item. Measures prepared in this manner are used in each module of the model program. The results of each mastery test are entered into computer memory for later analysis.

Standard Tasks. As a part of the admission procedure, an interest inventory, personality schedule, and biographical information blank are administered. During training, the affective domain is appraised predominately

The Student Accomplishes the Following Objectives:	Supporting Content	Process used in Measurement					
		Recall	Comprehension	Application	Analysis/ Synthesis	Evaluation	Total No. of Items
Learns a brief historical background of educational measurement.	Work of Wundt, Galton, Cattell, and Binet. Measurement in four periods since 1900.	3					3
Acquires a brief overview of measurement.	Evaluation and measurement, observational techniques, functions measured, individual differences.	4					4
Develops an understanding of teacher-made tests.	Objectives, processes, content, item types, scoring, characteristics.	1	2	2			5
Writes test items.	Multiple choice, essay, true-false, matching.	1	1	1	1	1	5
Administers the test.	Directions, timing, key, reproduction of test, scoring.	1	1	1		2	5
Interprets the test.	Frequency distribution, mean, mode, median, histogram, standard deviation, correlation.		1	1	2	1	5
Prepares and presents normative data.	Descriptive statistics, percentiles, standard scores, profiles.	1	1	1	2	1	6
Acquires an understanding of desired test characteristics.	Reliability, objectivity, practicality, criterion, validity.		1	1	2	2	6
Gains experience in finding test information.	Sources, types of information, test evaluation procedures.		1	1		3	5
		11	8	8	7	10	44

Figure 8
Educational Test Module Guide

in laboratory experiences. In the pre-professional program, students are assigned standard tasks of a paraprofessional nature. Examples include:

1. Oversees pupils engaged in games familiar to them.

2. Observes pupils with an observation schedule and reports results.

3. Catalogs and files series of training materials.

4. Helps pupils locate learning resources.

5. Makes the height and weight measures of pupils and records them.

Standard tasks suitable for students completing the first half of the professional program are:

1. Interviews the pupil to gather information requested in a biographical information blank.

2. Administers a standardized test to define the pupil's achievement in:

   A. Word knowledge
   B. Reading ability
   C. Arithmetic skills
   D. Language skills
   E. Study skills

3. Prescribes pupil learning behaviors.

4. Guides pupil in mastery of behaviors.

5. Administers mastery test and evaluates results.

These standard tasks will be appraised by whatever techniques are appropriate. For certain tasks (such as preparing a training aid) there are end products to evaluate. Other tasks follow routine procedures and can be evaluated by a check list, such as the tasks of cataloging and filing materials. Some task performance can be checked for accuracy, for example, measuring height and weight, and scoring routine pupil work assignments. Other tasks require ratings.

Internship Measures. One of the principle approaches used during the internship program is the microteaching technique. This technique involves clearly defined teaching skills in presentation, stimulus situation, reinforcement, questioning, and closure. The student is presented with the techniques, applies them in small groups and is provided immediate feedback by means of video-tape. Supervisors evaluate the performance.

Critiques. After all proficiency module measures have been administered for a given block of the program, the progress of the student is reviewed by an advisor. The advisor critiques performance in this PM block, using all data available. The student is either permitted to advance to the next block, is retained for further training, or is referred for special advisement. Progress reviews and possible routes are shown in Figure 9.

Other Evaluative Measures. Other criteria for evaluation include such conventional measures as elementary school achievement batteries, parental attitude scales to measure the parents' attitude toward the goals of the system, and peer ratings to appraise how contemporaries regard the teacher's effectiveness. Supervisory ratings will deal with effectiveness and proficiency in performing assigned tasks.

COST EFFECTIVENESS

The purpose of a cost effectiveness control program is to enable the educator to select from many training variables those which achieve his objective most economically.

The method of cost effectiveness control employed is an adaptation of the Abt Associates model (Abt).

In the Georgia Educational Model there are two major subsystems to consider in cost effectiveness. They are the teacher education program and the elementary school program. The specifications are for the student who is to become the teacher. However, the teacher, in turn, is measured by the improvement in achievement of the elementary pupil. Thus, the cost effectiveness study includes the entire system.

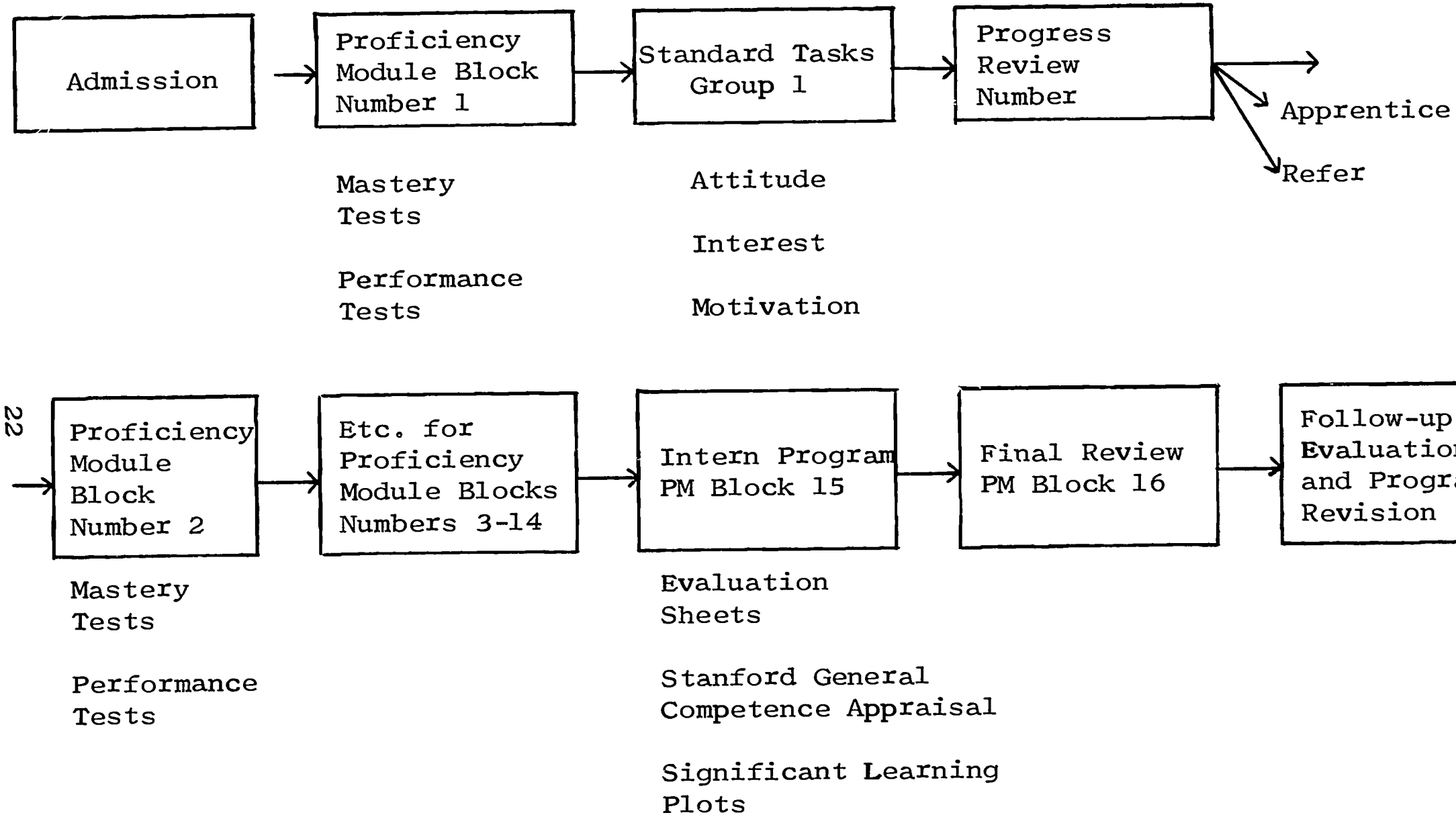

Figure 9

Apprentice Teacher Progress Review

In a cost effectiveness model, there are three items of interest: inputs, outputs, and their relationship. The inputs are those items for which money is spent. The outputs are the benefits which are received from the expenditures. The relationship predicts how the output will change for a given input change. Unfortunately, the difficult tasks of measuring effectiveness and defining relationship combine to render predictions which, at their best, are only estimates.

REORGANIZATION FOR IMPLEMENTATION

Professional and Managerial Considerations. A complete reorganization of the College of Education's elementary teacher training program will be required for implementation of this training model.

The organizational design for instruction assumes the model should be the basis for determining the administrative organization that will implement the program. Persons who have achieved professorial status for their high level of academic or professional competency should not dissipate these qualities in managerial tasks. Non-professionals with managerial skills will be employed for sub-professional activities.

The diagram of specifications for the basic administration designates the Dean of the College of Education as the head administrator working with a committee of executives drawn from all colleges responsible for the education of preservice and inservice education of elementary teachers, superintendents of school districts, and representatives of the state department concerned with education. The Director of Teacher Education--Elementary is the chief of the program. Under his direction are three directors of professorial status and one manager. The directors are: Director of Program Evaluation, Director of Project Evaluation, and Director of Instructional Units. The manager's title is Manager of Student Program Advisement Services.

The Director of Program Evaluation is concerned with the entire evaluation system within the on-going program, including the follow-up, while the Director of Project

Evaluation is an "outside" observer who has no operational responsibilities or involvement in the program. He is responsible for establishing and coordinating the work of a panel of outside consultants who will evaluate the operation of the various components of the program.

The Director of Instruction has direct responsibility for the curriculum structure and with the help of his staff, supervises the separate instructional units. The Manager of Student Advisement is familiar with program requirements for admission, program sequences, transitional and terminal degree programs, and with the general rules and policies of the institution. He supervises the work of three coordinators (managers), one for each of the sub-programs: pre-professional, professional, and specialist, who facilitate the work of the advisors and instructors.

Each of the various instructional units is a separate organization having an advisory board, director, manager of instructional unit, and three associate managers in charge of various services such as clinics, instructional unit laboratories, laboratory experiences, and group interaction learning experiences. The instructors of the instructional units report directly to the Director of the Instructional Unit, but their work is facilitated by the managers.

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